

SUBSTITUTE SHEET

-1-

METHOD AND DEVICE FOR ASSAYING MOLECULES
USING RF INTEGRATED PASSIVE COMPONENTS

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of co-pending U.S. Patent Application No. 09/612,792, filed July 10, 2000, to inventors Beuhler et al. (Attorney Docket No. CMO13991), herein incorporated by reference in its entirety.

FIELD OF THE INVENTION

This invention relates generally to systems for assaying target unknown molecules, in particular biologically significant molecules ("biomolecules"). More particularly, this invention relates to devices that use RF integrated passive components to detect the presence of and assay the quantity of biomolecules at a test site.

BACKGROUND OF THE INVENTION

It is often desirable to determine the presence of a given biomolecule in a biological sample. For example, it is useful to know whether a particular type of DNA is present in samples used for genetic diagnosis and research or for disease diagnosis and research. It is also desirable to know if a particular antibody is present in samples used for toxicology testing. It is further desirable to know if a particular molecule is present in samples used for agricultural and pharmaceutical development. Assays for biomolecules typically detect ligands such as cells, antibodies and anti-antibodies. Ligands may be defined as molecules that are recognized by a particular receptor. Ligands may include, without limitation, agonists and antagonists for cell membrane receptors, toxins, venoms, oligo-saccharides, proteins, bacteria, and monoclonal antibodies.

SUBSTITUTE SHEET

-1-